

Mineral Industry Surveys

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ZINC IN OCTOBER 2004

Domestic mine production in October of 64,200 metric tons (t) was slightly more than in September and about 5% more than in October 2003, according to the U.S. Geological Survey. Estimated smelter production of 23,800 t was about 1% less than in September but about 9% more than in October 2003. Apparent consumption of 83,500 t was about 5% lower than consumption in September but about 8% higher than in October 2003.

The Platts Metals Week average monthly composite price for North American Special High Grade zinc increased to 53.31 cents per pound in October. The zinc price was about 22% (9.61 cents) higher than that in October 2003.

Zinc treatment charges (TC) are predicted to fall by up to \$10 per metric ton in 2005 from the 2004 benchmark of about \$140 per metric ton, as concentrate supply remains limited spurring lower TC. Because Europe is the favored destination for many South American producers of zinc concentrates, owing to cheaper freight rates, TC charges in Europe will likely fall less than in Asia (Platts Metals Week, 2004e). However, European consumers will not benefit from higher TC paid by mining companies because premiums for zinc metal in 2005 are expected to increase owing to insufficient feed material and resulting underutilization of smelters. Early deals for 2005 for special high grade zinc point to a \$10 increase in premiums over the \$70-\$75 per metric ton range charged in 2004 (Metal Bulletin, 2004).

Rising metal prices helped many Canadian mining companies increase their earnings during the first 9 months of 2004 as well as in the third quarter of the year, compared with earnings in the same periods of the previous year. Third quarter earnings of Teck Cominco Ltd. increased from \$12 million to \$94 million in 2004, making it the fourth consecutive quarter of record earnings. During the last quarter, the company's mines produced 171,000 t of contained zinc, 66,000 t of copper, and 34,000 t of lead (Platts Metals Week, 2004d). Upturn in metal prices also propelled Falconbridge Ltd. to a record third quarter profit of \$155 million. Compared with that of the same period in 2003, the increase was more than eightfold, despite the negative effect of a weakening U.S. dollar. Year-to-date

earnings totaled \$478 million, nearly five times the \$96 million gained in January-September 2003 (Metal Pages, 2004b§¹). In addition to higher prices, reduction of Kidd Creek, Ontario, refinery maintenance time from 3 months in 2003 to only 7 weeks in 2004 was the main reason for the steep increase in profits. Because of reduced maintenance time, the third quarter production at the refinery increased more than threefold compared with that of the same period in 2003 (CRU International Ltd., 2004b). For the first 9 months of 2004, Breakwater Resources Ltd. increased earnings from \$2 million to \$9 million, compared with that of the same period in 2003. Although the average cost of concentrate sold in the third quarter increased to \$296 per metric ton, for the first 9 months it averaged \$286 per metric ton, the same as that of 2003 for the similar period. Breakwater agreed to restart labor negotiations at its Myra Falls Mine in British Columbia, acquired through its purchase of Boliden Westmin Ltd. of Canada, after negotiations broke down in October. Discussions between management and the Canadian Auto Workers union began in June for a collective agreement that expired June 30 (Platts Metals Week, 2004a).

Teck Cominco Ltd. and Marubeni Corp. of Japan sold their interest in Refinera de Zinc de Cajamarquilla, which owns and operates the Cajamarquilla zinc refinery in Peru, to Brazilian metal producer Votorantim Metais SA. For its 85% share, Teck Cominco will receive about \$136 million in cash, after repaying \$47 million of bank debt related to Cajamarquilla (Platts Metals Week, 2004c).

In October 2004, mining ceased at the Bell Allard Mine, Quebec, owned by Noranda Inc. Total output for the year was 97,800 t of contained zinc. Ore from the mine was processed at the Matagami mill, which will be put on care and maintenance until Noranda begins exploiting the Perseverance deposit (CRU International Ltd., 2004a).

In its quarterly statement, Canadian Zinc Corp. reported losses of \$450,000 for the 9 months that ended on September 30, 2004, compared with losses of \$247,000 for the same period in 2003. The main reason for the increased loss was the accelerated

¹References that include a section mark (§) are found in the Internet Reference Cited section.

exploration at the Prairie Creek Mine during the last quarter before curtailment of activities for the winter season. The Prairie Creek Mine project in the south Mackenzie Mountains of the Northwest Territories includes a nearly complete mine, mill, and surrounding infrastructure with a large mineral resource totaling about 12 million metric tons (Mt) grading 12.5% zinc, 10.1% lead, 0.4% copper, and 161 grams per metric ton silver (Metal Pages, 2004a§).

Continued strong domestic prices in China are being credited for increased production and lower exports of zinc. During the first 9 months of 2004, China produced 1.85 Mt of zinc, an 11% increase over that of the same period in 2003. Production for the whole year was expected to reach 2.46 Mt, about 170,000 t more than in 2003. At the same time, exports are likely to decline by about 45% from 450,000 t exported in 2003; for the first 9 months of 2004 exports were already down by 48%. China was expected to consume about 2.38 Mt of zinc metal in 2004, which would likely increase to 2.7 Mt in 2005 (Platts Metals Week, 2004b). Increased consumption of zinc in China has been driven by increased use of galvanized steel, which grew between 1992 and 2003 by an average of 24% per year. The Chinese galvanizing industry has been unable to keep pace with consumption, covering only about 45% of market demand. Most of the galvanized steel sheet is used by the air conditioning industry, followed by the automobile industry. Because of construction for the 2008 Olympic Games, increased output of automobiles, and continued demand by the home appliance

industry, demand for galvanized steel sheets in China was expected to reach 10 Mt in 2005 and 15 Mt by 2010 (Antaike, 2004).

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TABLE 1
SALIENT ZINC STATISTICS¹

(Metric tons, unless otherwise specified)

| | 2003 | 2004 | | | |
|---|----------------------|---------------------|---------------------|---------------------|----------------------|
| | January- December | August | September | October | January- October |
| Production: | | | | | |
| Mine, zinc content of concentrate | 768,000 | 64,500 | 64,100 | 64,200 | 618,000 |
| Mine, recoverable zinc | 738,000 | 62,000 | 61,600 | 61,600 | 597,000 |
| Smelter, refined zinc | 272,000 | 29,300 ^e | 24,100 ^e | 23,800 ^e | 276,000 |
| Consumption: | | | | | |
| Refined zinc, reported | 423,000 | 33,600 | 33,800 | 34,700 | 353,000 |
| Ores ^e (zinc content) | 727 | 61 | 61 | 61 | 607 |
| Zinc-base scrap ^e (zinc content) | 191,000 | 15,900 | 15,900 | 15,900 | 159,000 |
| Copper-base scrap ^e (zinc content) | 176,000 | 14,700 | 14,700 | 14,700 | 147,000 |
| Aluminum-and magnesium-base scrap ^e (zinc content) | 1,430 | 120 | 120 | 120 | 1,200 |
| Total ^e | 791,000 | 64,300 | 64,500 | 65,400 | 661,000 |
| Apparent consumption, metal ² | 1,050,000 | 109,000 | 87,900 | 83,500 ³ | 967,000 ³ |
| Stocks of refined (slab) zinc, end of period: | | | | | |
| Producer ⁴ | XX | 6,370 | 7,020 | 7,070 | XX |
| Consumer ⁵ | XX | 53,500 | 53,700 | 54,000 | XX |
| Merchant | XX | 9,930 | 9,790 | 9,970 | XX |
| Total | XX | 69,800 | 70,500 | 71,000 | XX |
| Shipments of zinc metal from Government stockpile | 13,600 | 3,360 | -- | -- | 28,900 |
| Imports for consumption: | | | | | |
| Refined (slab) zinc | 758,000 | 64,700 | 60,400 | NA | 595,000 ⁶ |
| Oxide (gross weight) | 98,300 | 9,570 | 7,430 | NA | 79,200 ⁶ |
| Ore and concentrate (zinc content) | 164,000 | 23,100 | 27,800 | NA | 180,000 ⁶ |
| Exports: | | | | | |
| Refined (slab) zinc | 1,680 | 231 | 146 | NA | 2,960 ⁶ |
| Oxide (gross weight) | 12,100 | 1,100 | 1,340 | NA | 11,000 ⁶ |
| Ore and concentrate (zinc content) | 841,000 | 212,000 | 140,000 | NA | 588,000 ⁶ |
| Waste and scrap (gross weight) | 50,200 | 6,170 | 4,820 | NA | 39,600 ⁶ |
| Price: | | | | | |
| London Metal Exchange, average, dollars per metric ton | \$827.32 | \$975.39 | \$974.83 | \$1,060.00 | \$1,030.00 |
| Platts Metals Week North American Special High Grade, average, cents per pound | 40.63 | 49.44 | 49.23 | 53.31 | 51.63 |

^eEstimated. NA Not available. XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; except prices; may not add to totals shown.

²Smelter production plus imports minus exports plus shipments from Government stockpile plus stock change.

³Data based on reported consumption, stocks, and estimated trade data.

⁴Data from U.S. Geological Survey and American Bureau of Metal Statistics.

⁵Includes an estimate for companies that report annually.

⁶Includes data through September only.

TABLE 2
REFINED ZINC PRODUCED IN THE UNITED STATES¹

(Metric tons)

| Month | Beginning stocks ² | Production | Shipments | Ending stocks ² |
|-----------------|----------------------------------|---------------------|-----------|-------------------------------|
| 2003: | | | | |
| October | 7,790 | 21,800 | 21,300 | 8,300 |
| November | 8,300 | 23,500 | 23,800 | 8,010 |
| December | 8,010 | 20,200 | 20,500 | 7,660 |
| Year | XX | 272,000 | 273,000 | XX |
| 2004: | | | | |
| January | 7,660 | 26,900 | 28,100 | 6,440 |
| February | 6,440 | 26,900 | 28,100 | 5,230 |
| March | 5,230 | 28,900 | 28,200 | 5,960 |
| April | 5,960 ^e | 29,600 | 28,300 | 7,300 |
| May | 7,300 ^e | 28,600 | 28,300 | 7,660 |
| June | 7,660 ^e | 28,600 ^e | 29,900 | 6,340 |
| July | 6,340 ^e | 29,200 ^e | 29,200 | 6,390 |
| August | 6,390 ^e | 29,300 ^e | 29,300 | 6,370 |
| September | 6,370 ^e | 24,100 ^e | 23,400 | 7,020 |
| October | 7,020 ^e | 23,800 ^e | 23,700 | 7,070 |
| January-October | XX | 276,000 | 276,000 | XX |

^eEstimated. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes stocks held at locations other than smelters.

Sources: U.S. Geological Survey and American Bureau of Metal Statistics.

TABLE 3
APPARENT CONSUMPTION OF REFINED ZINC ACCORDING TO INDUSTRY USE
AND PRODUCT¹

(Metric tons)

| Industry and product | 2003 | 2004 | | | |
|-------------------------|----------------------|---------|-----------|----------------------|----------------------------------|
| | January- December | August | September | October ² | January- October ² |
| Galvanizing: | | | | | |
| Sheet and strip | 442,000 | 45,000 | 36,700 | 34,500 | 397,000 |
| Other | 146,000 | 16,800 | 12,300 | 11,200 | 139,000 |
| Total | 588,000 | 61,800 | 49,000 | 45,800 | 536,000 |
| Brass and bronze | 167,000 | 16,200 | 13,200 | 13,200 | 158,000 |
| Zinc-base alloy | 222,000 | 22,900 | 18,800 | 17,900 | 202,000 |
| Other uses ³ | 70,700 | 7,800 | 6,800 | 6,500 | 71,200 |
| Grand total | 1,050,000 | 109,000 | 87,900 | 83,500 | 967,000 |

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on reported consumption, stocks, and estimated trade data.

³Includes zinc used in making zinc dust, desilvering lead, powder, alloys, anodes, chemicals, castings, light metal alloys, rolled zinc, and miscellaneous uses not elsewhere specified.

TABLE 4
AVERAGE MONTHLY ZINC PRICES¹

| Period | North American | LME ² cash | |
|-----------------|----------------|-----------------------|----------|
| | ¢/lb. | ¢/lb. | \$/t |
| 2003: | | | |
| October | 43.70 | 40.71 | 897.54 |
| November | 44.80 | 41.47 | 914.16 |
| December | 47.85 | 44.33 | 977.35 |
| Year | 40.63 | 37.53 | 827.32 |
| 2004: | | | |
| January | 49.93 | 46.11 | 1,016.62 |
| February | 53.84 | 49.32 | 1,087.26 |
| March | 55.25 | 50.14 | 1,105.37 |
| April | 52.09 | 46.82 | 1,032.28 |
| May | 51.76 | 46.63 | 1,027.93 |
| June | 51.33 | 46.32 | 1,021.08 |
| July | 50.08 | 44.81 | 987.94 |
| August | 49.44 | 44.24 | 975.39 |
| September | 49.23 | 44.22 | 974.83 |
| October | 53.31 | 48.28 | 1,064.49 |
| January-October | 51.63 | 46.69 | 1,029.32 |

¹Special High Grade.

²London Metal Exchange.

Source: Platts Metals Week.

TABLE 5
U.S. EXPORTS OF ZINC¹

| Material | 2003 | | 2004 ² | | | |
|--------------------------------------|---------------------------|----------------------|---------------------------|----------------------|---------------------------|----------------------|
| | | | September | | Year to date | |
| | Quantity (metric tons) | Value (thousands) | Quantity (metric tons) | Value (thousands) | Quantity (metric tons) | Value (thousands) |
| Refined (slab) zinc | 1,680 | \$1,760 | 146 | \$199 | 2,960 | \$4,830 |
| Ore and concentrate (zinc content) | 841,000 | 337,000 | 140,000 | 97,400 | 588,000 | 333,000 |
| Waste and scrap (gross weight) | 50,200 | 32,600 | 4,820 | 3,970 | 39,600 | 33,800 |
| Powders, flakes, dust (zinc content) | 6,550 | 9,090 | 598 | 1,100 | 5,800 | 10,100 |
| Oxide (gross weight) | 12,100 | 15,200 | 1,340 | 1,630 | 11,000 | 15,000 |
| Chloride (gross weight) | 1,470 | 1,650 | 105 | 119 | 1,470 | 1,660 |
| Sulfate (gross weight) | 2,310 | 1,440 | 147 | 92 | 2,390 | 1,410 |
| Compounds, other (gross weight) | 183 | 472 | 8 | 99 | 120 | 426 |

¹Data are rounded to no more than three significant digits.

²Data for October 2004 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF ZINC¹

| Material | 2003 | | 2004 ² | | | |
|--------------------------------------|---------------------------|----------------------|---------------------------|----------------------|---------------------------|----------------------|
| | | | September | | Year to date | |
| | Quantity (metric tons) | Value (thousands) | Quantity (metric tons) | Value (thousands) | Quantity (metric tons) | Value (thousands) |
| Refined (slab) zinc | 758,000 | \$647,000 | 60,400 | \$69,600 | 595,000 | \$658,000 |
| Ore and concentrate (zinc content) | 164,000 | 60,000 | 27,800 | 9,500 | 180,000 | 67,900 |
| Waste and scrap (gross weight) | 10,300 | 5,740 | 900 | 653 | 7,780 | 5,400 |
| Powders, flakes, dust (zinc content) | 27,400 | 41,200 | 2,140 | 3,560 | 18,500 | 30,200 |
| Oxide (gross weight) | 98,300 | 72,200 | 7,430 | 6,580 | 79,200 | 66,500 |
| Chloride (gross weight) | 663 | 914 | 61 | 56 | 599 | 702 |
| Sulfate (gross weight) | 25,800 | 11,700 | 2,570 | 1,210 | 21,500 | 10,300 |
| Compounds, other (gross weight) | 1,010 | 951 | 518 | 502 | 2,930 | 2,580 |

¹Data are rounded to no more than three significant digits.

²Data for October 2004 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 7
SHIPMENTS OF ZINC METAL FROM THE NATIONAL
DEFENSE STOCKPILE¹

(Metric tons)

| Period | Beginning inventory | Shipments | Ending inventory |
|-----------------|------------------------|-----------|---------------------|
| 2003: | | | |
| October | 102,000 | -- | 102,000 |
| November | 102,000 | 539 | 102,000 |
| December | 102,000 | 6,270 | 95,200 |
| Year | XX | 13,600 | XX |
| 2004: | | | |
| January | 95,200 | 3,340 | 91,900 |
| February | 91,900 | -- | 91,900 |
| March | 91,900 | 2,920 | 89,000 |
| April | 89,000 | 3,340 | 85,600 |
| May | 85,600 | 14,700 | 70,900 |
| June | 70,900 | 1,170 | 69,800 |
| July | 69,800 | 44 | 69,700 |
| August | 69,700 | 3,360 | 66,400 |
| September | 66,400 | -- | 66,400 |
| October | 66,400 | -- | 66,400 |
| January-October | XX | 28,900 | XX |

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

Source: Defense Logistics Agency.

TABLE 8
U.S. IMPORTS OF ZINC, BY TYPE OF MATERIAL AND COUNTRY^{1,2}

(Metric tons)

| Material and country | General imports | | | Imports for consumption | | |
|---|------------------|---------------|----------------|-------------------------|---------------|----------------|
| | 2003 | 2004 | | 2003 | 2004 | |
| | | September | Year to date | | September | Year to date |
| Ore and concentrate (zinc content): | | | | | | |
| Australia | 43,400 | -- | 19,300 | 43,400 | -- | 19,300 |
| Ireland | 36,500 | -- | 10,800 | 36,500 | -- | 10,800 |
| Mexico | 9,400 | -- | 5,800 | 9,400 | -- | 5,800 |
| Peru | 74,600 | 27,800 | 143,000 | 74,600 | 27,800 | 143,000 |
| Other | -- | -- | 877 | -- | -- | 877 |
| Total | 164,000 | 27,800 | 180,000 | 164,000 | 27,800 | 180,000 |
| Blocks, pigs, or slab: | | | | | | |
| Australia | 22,000 | 1 | 7,940 | 14,400 | 377 | 27,200 |
| Brazil | 27,600 | 2,440 | 23,000 | 22,400 | 2,440 | 23,100 |
| Canada | 498,000 | 39,800 | 371,000 | 498,000 | 39,800 | 371,000 |
| China | 23,800 | 2 | 35 | 48 | 840 | 9,590 |
| Japan | 50 | -- | -- | -- | -- | 690 |
| Kazakhstan | 19,700 | -- | 2,310 | 19,700 | -- | 2,310 |
| Korea, Republic of | 34,000 | -- | 7,730 | 1,340 | 2,540 | 24,300 |
| Mexico | 141,000 | 8,490 | 89,000 | 141,000 | 8,490 | 89,000 |
| Namibia | 16,100 | 2,220 | 22,700 | 16,100 | 2,220 | 22,700 |
| Peru | 43,400 | 3,110 | 16,700 | 42,900 | 3,140 | 21,600 |
| Poland | 1,600 | -- | -- | 1,600 | -- | -- |
| Other | 1,050 | 2 | 203 | 121 | 561 | 3,430 |
| Total | 829,000 | 56,100 | 541,000 | 758,000 | 60,400 | 595,000 |
| Dross, ashes, fume (zinc content) | 14,100 | 1,240 | 11,800 | 14,100 | 1,240 | 11,800 |
| Grand total | 1,010,000 | 85,100 | 733,000 | 936,000 | 89,500 | 787,000 |
| Oxide (gross weight): | | | | | | |
| Canada | 47,300 | 3,970 | 36,700 | 47,300 | 3,970 | 36,700 |
| China | 575 | -- | 187 | 575 | -- | 187 |
| Italy | 770 | 1,160 | 10,400 | 770 | 1,160 | 10,400 |
| Japan | 965 | 62 | 806 | 965 | 62 | 806 |
| Mexico | 40,500 | 1,840 | 26,900 | 40,500 | 1,840 | 26,900 |
| Netherlands | 4,820 | 363 | 3,680 | 4,820 | 363 | 3,680 |
| Other | 3,420 | 35 | 614 | 3,420 | 35 | 614 |
| Total | 98,300 | 7,430 | 79,200 | 98,300 | 7,430 | 79,200 |
| Other (gross weight): | | | | | | |
| Waste and scrap | 10,300 | 900 | 7,780 | 10,300 | 900 | 7,780 |
| Sheets | 1,790 | 96 | 2,140 | 1,790 | 96 | 2,140 |
| Powders, flakes, dust (zinc content) | 27,500 | 2,140 | 18,500 | 27,400 | 2,140 | 18,500 |

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data for October 2004 were not available at time of publication.

Source: U.S. Census Bureau.